IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Manley, et al.

Confirmation Number: 7130

Group Art Unit: 2133

Serial No.: 10/078,817

Examiner: John P. Trimmings

Filed: February 19, 2002

Docket No. 10011387-1

For: **DIAGNOSIS OF DATA TRANSFER FAULTS USING CONSTRAINTS**

DECLARATION OF LEE A. BARFORD

UNDER 37 C.F.R. 1.132

Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

I, Lee A. Barford, declare as follows:

Education and Experience

1. I am a co-inventor of the above-identified patent application and an employee of the assignee of that application.

2. I graduated from Temple University with a Bachelor of Arts degree in Computer and Information Science in 1982, and again from Cornell University with a Master of Science degree in Computer Science in 1985, and again from Cornell University with a Doctor of Philosophy degree in Computer Science in 1987.

3. Since graduating with my doctorate, I served as an Instructor in the Computer Science department at Cornell University during 1987. From 1987 to 1996, I was a Member of

the Technical Staff at Hewlett-Packard Laboratories in Palo Alto, CA. From 1996 to 1998 I was Senior Member of the Technical Staff. From 1998 to 2000 I was a Research Project Manager and Senior Member of the Technical Staff, still at Hewlett-Packard Laboratories. From 2000 to 2003 I was an Operating Manager and Expert Researcher at Agilent Laboratories, also in Palo Alto. Since 2003 I have held the titles of Master Researcher and Department Scientist at Agilent Laboratories. I am an author of approximately twenty-five technical articles published in peer-reviewed journals and conference proceedings. I authored another seven articles currently undergoing peer review. I am the author of roughly a dozen non-peer reviewed publications. I am inventor or co-inventor of ten US patents and approximately a dozen foreign patents. I have given two invited, conference keynote addresses at international technical workshops. I have given invited lectures on modeling topics at major universities around the world, including Stanford, Cambridge, and Vanderbilt universities and the universities of Brussels, Vienna, British Columbia, New Hampshire, and Tennessee. I have also given invited lectures on modeling topics at world-class research institutes including the National Aeronautics and Space Administration Space Telescope Science Institute, Sandia National Laboratories, and the Deutsche Forschungszentrum für Luft- and Raumfahrt (German Research Center for Air and Space Transportation). During my twenty-two years of university and industrial research experience, I have worked, written, and lectured primarily in the area of using computer modeling to aid engineers and technicians in other fields with their work. Dataflow models are among the topics of one of my articles published in a peer-reviewed journal. Dataflow modeling for diagnosis, fault isolation, and fault analysis in data network devices is the topic of two articles currently undergoing peer review of which I am sole author.

4. Through my education and work in the electronics industry, I have gained extensive experience with modeling of data transfer faults.

Dataflow Model and Dataflow Modeling as Understood By One Having Ordinary Skill In the Art

5. A dataflow model has a well understood meaning in the art, as evidenced by Exhibit A, which is an exemplary on-line definition provided by the *Webopedia* web-site that provides that a data flow model is a "graphical representation produced by data flow modeling."

6. Dataflow modeling has a well understood meaning in the art, as evidenced by Exhibit B, which is an exemplary on-line definition provided by the *Webopedia* web-site that provides that data flow modeling is a "process of identifying, modeling and documenting how data moves around an information system." (emphasis added)

7. Modeling has a well understood meaning in the art, as evidenced by Exhibit C, which is an exemplary on-line definition provided by the *Webopedia* web-site that provides that modeling or models refer to abstractions or representations.

Dataflow Model and Dataflow Modeling as Used In Applicants' Specification and Claims

8. The Applicants' specification describes dataflow models in a manner that is consistent with the well understood meaning provided above, such as on page 6, line 9 which provides that the dataflow model can be "representative of the error free behavior of the SUT," as opposed to considering the dataflow model and the SUT one in the same.

9. The Applicants' specification describes dataflow models in a manner that is consistent with the well understood meaning provided above, such as on page 6, lines 18 and 19, which provides that the "dataflow model 120 describes the flow(s) of data associated with SUT 110," as opposed to considering the dataflow model and the SUT one in the same.

10. The Applicants' FIG. 1 shows that the dataflow model is distinguishable from the SUT, consistent with the well understood meaning provided above.

11. The Applicants' claims describe dataflow models in a manner that is consistent with the well understood meaning provided above, such as in independent claims 1 and 15 (and similar recitations in other claims) that state "providing a dataflow model corresponding to the error-free behavior of the SUT," as opposed to considering the dataflow model and the SUT one in the same.

12. The Applicants' claims describe dataflow models in a manner that is consistent with the well understood meaning provided above, such as in independent claim 20 that states "a dataflow model representative of error detection capabilities of the SUT," as opposed to considering the dataflow model and the SUT one in the same.

The Banks Reference (USPN 6,487,593, herein Banks)

13. The Office Action mailed 8/17/2005 included the following statements with regard to *Banks* (Section 3, Page 3 of the Detailed Action):

> Banks teaches a method and system for diagnosing faults in a system under test (SUT) (column 1 lines 64-66), the SUT defining data transmission paths through which data packets are transferred (see FIG. 1 and Background), said method comprising: providing a dataflow model

> corresponding to the error-free behavior of the SUT (see FIG. 1 where data flows from DPU to DPU by the edges/lines depicted), the dataflow model including edges, each of the edges corresponding to a portion of one of the data transmission paths of the SUT (column 2 lines 66-67, column 3 lines 1-7)...

14. Although the Office Action provides that FIG. 1 of *Banks* shows "providing a dataflow model," the brief description of drawings section of *Banks* (col. 2, lines 57-59) provides the following description for FIG. 1:

> FIG. 1 shows a group of inter-connected data processing units forming a network, to which the preferred embodiment can advantageously be applied;

15. From at least the above mentioned section from the brief description of drawings section of *Banks*, it appears that an actual, physical network of data processing units is shown.

16. Upon information and belief, I submit that one skilled in the art of modeling of data transfer faults, such as myself, would understand that the physical network shown in FIG. 1 and described in the specification of *Banks* would be considered a SUT and not a dataflow model.

The Wei Reference (USPN 6,515,967, herein Wei)

17. The Advisory Action mailed 6/17/2005 stated that *Wei* does disclose a dataflow model in Figure 1.

18. Although the Office Action provides that FIG. 1 of *Wei* shows a dataflow model, the brief description of drawings section of *Wei* (col. 4, lines 17-18) provides the

following description for FIG. 1:

> FIG. 1 is an illustration showing typical components in a computer network configuration.

19. From at least the above mentioned section from the brief description of drawings section of *Wei*, it appears that an actual, physical computer network is shown.

20. Upon information and belief, I submit that one skilled in the art of modeling of data transfer faults, such as myself, would understand that the physical network shown in FIG. 1 and described in the specification of *Wei* would be considered a SUT and not a dataflow model.

21. Based on the foregoing, and upon information and belief, I submit that one skilled in the art of modeling of data transfer faults, such as myself, would understand that the *Banks* and *Wei* references disclose SUTs but do not disclose dataflow models.

DECLARATION

I hereby declare that all statements made herein are of my own knowledge are true and that all statements are made on information and belief and are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Lee A. Barford

Lee A. Barford

11/17/2005

Date